PACKING IS NOT A SIMPLE THING

It Has to Be Treated to Prevent It Solidifying Under Pressure.

An analysis of the packing question by H. S. Demarest, manager packing department, Greene, Tweed & Co.

Unfortunately the subject of rod packings for steam and air pressures has become unnecessarily enshrouded in mystery, due to the fact that brands have been multiplied without number, many of which are made of the same materials and process of manufacture. This, together with the fact that most of the manufacturers make the most extravagant claims for their brands, renders the selection of a brand of packing for a definite service more or less difficult.

Let us, therefore, briefly analyze the subject of packings, and if possible strip it of the mystery that seems to surround it. We must first consider the condition of service under which the packing is to work, and the power of endurance of which such packing is made. In considering the elementary subject of material all packings (metallic packing not being here considered) must necessarily fall into two classes; those manufactured of materials of vegetable fibre and those of mineral substance.

The vegetable fibres generally used in the manufacture of packings are jute, flax, hemp, cotton duck and rubber, all of which begin to deteriorate by charring at a certain easily determined temperature, which is far below that incident to present steam pressures, particularly those standard on the railroad systems in this country today.

When only low pressure steam was carried, packings made of vegetable fibres gave satisfaction but as pressures increased and superheated steam was added, they fail to possess lasting qualities in proportion to the increase of pressure. It is therefore apparent at a glance that packings made of vegetable fibres are absolutely useless under the abnormal temperature of superheated steam and compressed air.

Rubber which is very popular in the manufacture of packings is utterly useless under present pressures because it vulcanizes at a temperature below them and for that reason does not possess the resilience, the only reason for its use. The constant increasing price of crude rubber drives the manufacturer to substitutes, which are even more worthless than pure rubber under present conditions. In fact, rubber varies with age and uniform quality of manufacture is difficult and lubricant which is most necessary quickly destroys rubber, all operate against it as a suitable material out of which to manufacture packing for the present steam pressures.

Eliminating then all vegetable fibres as packing materials we must turn to asbestos, a mineral substance, with its well known heat resisting qualities. In its natural state it unfortunately possesses a quality that if not neutralized operates very strongly against it for packing purposes. The objectionable feature of asbestos is the tendency of the fibreized particles to solidify back into the rock from which it was fibreized when compressed in the stuffing box.

This objection can be overcome by injecting between the fibres of asbestos some foreign substance that will not only prevent solidifying but also serve as a lubricant. The effect of lubricant on asbestos is the opposite from that on rubber, for while it destroys rubber it benefits asbestos and removes from it its only objection, by preventing its hardening in service, and furnishes to the rod all necessary lubricant to reduce friction, the supply of which is a more natural effective method of stuffing box lubricant than it is possible to obtain from the use of oil cups.

Our analysis has reduced the vast number of brands of packing for steam pressures of 100 pounds and over, and all air pressures, down to those made of asbestos under a special process of manufacture which eliminates the only possible objection that can be brought against it as a packing, and so the subject becomes a very simple one.

Inasmuch as the lasting qualities of the packing determines its economy the careful consideration of the subject of packings along the lines suggested is most necessary.

Palmetto Packing is made entirely of first quality asbestos having very high tensile strength and each separate strand contains sufficient lubricant to keep it soft and pliable in service.

Palmetto gives a lasting service unknown to other packings and is therefore known as the "Packing for Economy."

AN AMERICAN WHO SHOWED WORLD

Henry Disston Had a Hard Struggle When He First Began Making Tools.

The Journal of the Philadelphia chamber of commerce recently printed an article of great interest about the great manufacturing concern of Henry Disston & Sons, one of the best known concerns in the world.

In 1840, Henry Disston, who had emigrated to this country from England, started in a small way to manufacture saws and some other tools made from steel. At the time Mr. Disston started this factory the United States laughed at anybody who thought saws could be manufactured in this country, and the prejudice existing against any except those foreign made was almost insurmountable.

However, this did not discourage young Disston, but rather acted as a stimulant to greater efforts. He passed through a stage of misfortune that would have discouraged the majority of old, as well as young men. It was ten years before the saws gained recognition. However, about 1850, Mr. Disston awakened to the fact that he and his products were famous.

Henry Disston died in 1878 and the active management of the business passed into the hands of his sons. The Disston products are known in every household, and by every carpenter in the world, and it is with pleasure that Krakauer, Zork & Moye's Succrs., inform the readers of this edition that we are in position to supply from stock the goods manufactured by this company.

German Soldiers Keep Up Their Spirits With Singing National Airs

London, Eng., Sept. 8.—Dispatches from correspondents state the German soldiers on many occasions are making their forced marches and entering battle with nothing to sustain them but hot coffee and soup.

When not fighting, the German companies march by singing all sorts of songs and national airs. They are divided into singing parts, some bass and some tenor, and the most perfect time is kept, one company taking up the refrain as soon as another has stopped.

BABBITT FOR ALL TEXAS FROM HERE

El Paso House Supplies the Famous Stanley Process Metal For the State.

Think of a great, big wheel, about as high as a house, whirling about its axis at the rate of 20,000 times a minute!

Sixty seconds make one minute—divide 20,000 by 60 and we learn that each spoke of the wheel passed a given point 333 times a second!

Can your brain conceive such a thing?

Now try and realize the tremendous strain of this great whirling thing upon its bearings with a pressure that may be as high as 20,000 pounds to the square inch.

And finally, try and understand the tremendous friction created by this monstrously big wheel, turning at lightning speed about a metal tube. Ordinarily, one second's whirl would create enough heat to set fire to the lubricating oil and melt the metal—but then, this is rather extraordinary, to the layman at least.

A number of years ago, a man by the name of Isaac Babbitt, realizing the importance of a metal to withstand the terrific strain of big machinery, invented an alloy of metals which stood the strain so well that machinery itself advanced because of it. This alloy consisted of a mixture of tin, antimony, lead, copper and other metals which, combined in certain proportions, reduced the friction to a minimum. In honor of its inventor, this metal was named "Babbitt."

For a good number of years babbitt metal seemed to serve admirably. Machines, however, continued to advance in size, the strain became heavier, the speed greater, but the babbitt remained the same. The great difficulty seemed to be that in the mixing of the metals, homogeneity was not always assured. Certain metals, such as antimony and copper, having a great affinity for each other, would combine and separate from the other metals. This combination made a metal hard as steel that might prove dangerous to the bearing, especially when the wheel revolved at great speed. Or else, the other parts of the bearing, which were soft because of the absence of the copper and antimony, would wear down after a comparatively short run.

This condition prevailed until the advent of the Stanley Process of alloying—a process whereby the various elements were so mixed that there was no possibility of any two metals combining at the expense of the others. This process differs from the others, mechanically rather than chemically. The same ingredients are used as by the old process, the difference being that the mixture, while molten, is kept in a constant and peculiar agitation until, by a series of tests, the homogeneity is absolutely assured.

In short, the creation of Babbitt began with the discovery of Isaac Babbitt—the re-creation of Babbitt began with the Stanley Process of alloying.

This process is controlled by the Syracuse Smelting Works, of Brooklyn, New York, a concern which has risen from comparative obscurity to one of the best known smelting houses in the world. And their success is due not only to their improved process of alloying, but also to the principles upon which they conduct their business. Every order taken by this company is backed by a guarantee that the goods must prove satisfactory, otherwise the consumer need not pay. The consumer's verdict is not questioned—he is the sole judge. It is needless to state, however, that unless the manufacturers were sure beyond all question, that their babbitts will do all that they claim for it, they would not dare offer their goods with so liberal a guarantee.

Branches of Syracuse Smelting Works are located in various parts of this country and in most of the countries of Europe. Among users of Syracuse babbitts are 75 percent of the sugar mills of the world, many large traction, mining and cement companies, and not the least appreciated—and appreciative—the United States navy.

Our own popular towns-merchants, Krakauer, Zork & Moye's, are the distributors for Syracuse babbitts in the state of Texas. The fact that this firm disposes of 100,000 pounds of the metal a year, speaks well for the progressiveness of El Paso merchants who are backed by dependable goods.